

**LIGHT EMITTING DIODE**

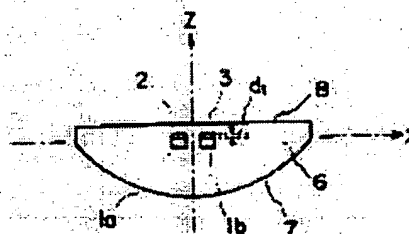
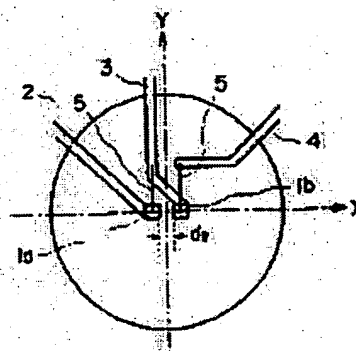
**Patent number:** JP3171682  
**Publication date:** 1991-07-25  
**Inventor:** SUEHIRO YOSHINOBU; others: 03  
**Applicant:** IWASAKI ELECTRIC CO LTD  
**Classification:**  
 - international: H01L33/00  
 - european:  
**Application number:** JP19890310029 19891129  
**Priority number(s):**

BEST AVAILABLE COPY

**Abstract of JP3171682**

**PURPOSE:** To obtain a light element which is long in service life and flat in light distribution characteristics by a method wherein a gap between adjacent light emitting elements is set to 0.5mm or below, and a lead section is formed of a lead frame 0.15mm or above in thickness.

**CONSTITUTION:** A lead frame changes in heat dissipating property with the change in thickness, and when it is 0.15mm or above in thickness, it is found that it becomes excellent in heat dissipating property. Judging from the above, the thickness of the lead frame should be set to 0.15mm or above. On the other hand, the gap between adjacent light emitting element is required to be 0.5mm or below so as to enable a light emitting diode to be flat in light distribution characteristics. Lead frames 2, 3, and 4 are formed of plate-like materials excellent in thermal conductivity, light emitting elements 1a and 1b are 0.3mm square and arranged at symmetrical positions about a Y axis (symmetrical axis) on an x-y plane. A gap between the light emitting elements 1a and 1b is made narrow enough within the allowable limits of an optical design, so that a light emitting diode of this design can be made flat in light distribution characteristics.



Data supplied from the esp@cenet database - Patent Abstracts of Japan